

Nesting records of the Scaly-breasted Illadopsis *Illadopsis albipectus* in Uganda

Jeremy A. Lindsell, Kennedy Andama, Raimon Ogen and Geoffrey Okethuwengu

The Scaly-breasted Illadopsis is a common resident of forest in central and eastern Africa. Lindsell (2001) found it occurring at densities of 36–46 territories/km² in western Uganda. Despite this and the geographical range including some well-studied sites (e.g. Kakamega Forest, western Kenya and the forests of Uganda), there is only one published record of breeding in this species, from Kibale Forest in Uganda (Butynski 1989). We report here details from a further eight nests found in Budongo Forest, western Uganda, in 1999 and 2000, and give the first description of the nestling. Information on nest construction, location and clutch are compared with those of the very similar Blackcap Illadopsis *I. cleaveri* of western Africa.

Study site and methods

The Budongo Forest Reserve is situated in western Uganda between 01°37'N–02°03'N and 31°22'E–31°46'E. The reserve covers an area of 793 km² that includes 428 km² of moist, semi-deciduous forest that naturally tends towards monodominance of *Cynometra alexandri* (Eggeling 1947). Maximum temperature peaks in January and February at 30–35° C, whilst remaining relatively constant throughout the rest of the year at around 25° C. Mean annual rainfall for 1993–1999 was 1680 mm and had two peaks, one in April and May and the other in September to November (Figure 1).

Nests were found by chance during the course of other fieldwork in the forest. Nests were hard to detect and were usually only discovered when they were adjacent to a well-used footpath: seven of the eight nests were within 3 m of a research trail. They were usually found when an adult was detected moving quietly away as the observer moved along a trail. No nests were discovered as a result of deliberate searches (c. 75 h of searching) though one nest was located whilst following a radio-tagged adult female.

Results

Nesting dates

A total of eight nests were found, distributed as follows: March (1), April (1), May (2), June (1), July (1), September (1) and November (1) (Figure 1). In addition, a recent fledgling was caught in mid-February implying nesting at the end of January or beginning of February.

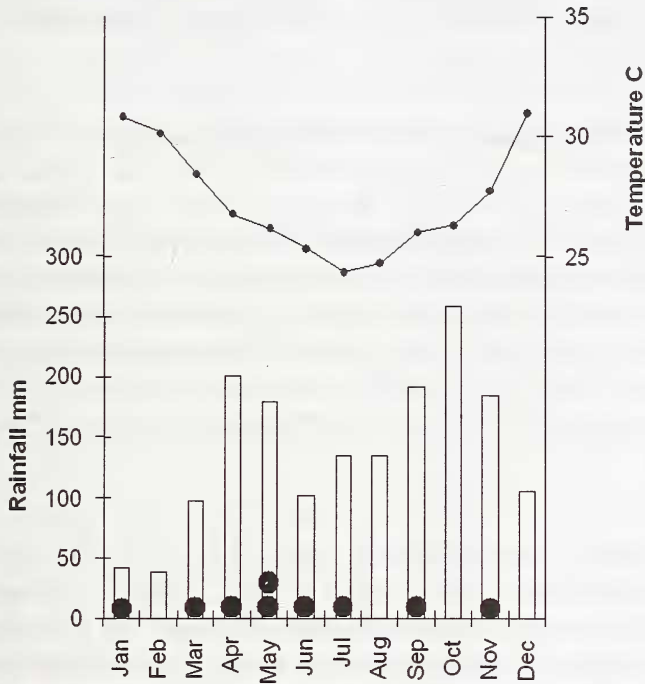


Figure 1. Mean monthly rainfall in mm and maximum temperature in °C at Sonso, Budongo Forest, for years 1993–1999 (data from Budongo Forest Project). Nest records for each month are shown as filled circles at the bottom of the graph.

Nest site locations

All nests were on the ground. Three nests were positioned at the base of small trees (20–30 cm dbh, *Celtis* spp.), one was positioned on sloping ground beside a small dead branch lying on the ground and four were in open leaf litter with little herbaceous cover around. Three of these nest locations were exposed to light patches on the forest floor caused by small openings in the canopy.

Nest construction

All nests were of very similar construction being an open cup built of dead leaves and lined with strands of fungus and rootlets, with an internal diameter of 60–70 mm, and an internal depth 40–50 mm. The body of the nest was set down into the leaf litter so that the cup itself was all that was visible, the rim of the cup being level with the surface of the leaf litter.

Eggs

Six nests contained eggs with clutch size being two in every case. The eggs were white (sometimes with a rosy tint) with dark rufous-brown blotches. Markings varied with some eggs having large blotches that contrasted

sharply with the background, and others with less distinct fine speckling of a lighter colour. Three eggs weighed 3.8, 4.4 and 4.6 g and measured 24 x 16, 22 x 16 and 23 x 16 mm.

Nestlings

The nestlings in one nest (probably about 8 days old, see below) had the head and back covered with mid-grey-brown down. The pins on the wings were slate grey and were just breaking, showing brown tips. Around the collar the pins were black with orangey bases. The pins on the flanks were cream grading to orange on the sides of the breast. The vent and belly were unfeathered. The bill was grey, the gape yellow and the iris dark blackish-brown (juvenile irides are pale grey and of older birds are warm brown).

Weight gains of the chicks in two nests are shown in Table 1. Evidence from these two nests suggested that the young probably left the nest on day eleven after hatching.

Nest survival

Of the eight nests, one was found before the clutch was laid and it was not subsequently used. One nest was discovered at the nestling stage and six nests were discovered at the egg stage. Of the seven active nests, two clutches were subsequently deserted, three clutches were predated, one clutch hatched and the chicks were probably predated and the nest with nestlings appeared to fledge successfully. In one nest there was a third egg that was distinctly different from the other two and is presumed to be that of a cuckoo. Several species of cuckoo were common in the vicinity. This egg disappeared without trace after the illadopsis eggs had hatched.

Table 1. Weight changes in four *I. albipectus* nestlings.

Days since hatching	Chick 1	Chick 2	Chick 3	Chick 4
5	13.5	11.4		
7	15.9	13.5		
8			17.1	15.2
10			21.7	19

Adult behaviour associated with nests

Males continued territorial singing when they had eggs or nestlings in the nest. Two birds, and possibly three, were observed to feed one brood. When the chicks were newly hatched, adults brooded the chicks between food deliveries. In one case, a mass of adult feathers was found beside a nest containing two eggs. The eggs were left untouched for one further day before disappearing themselves. It is likely that the adult was predated whilst incubating.

As part of other research, a total of 700 days of radio-tracking of territory-

holding adult male *I. albipectus* were conducted ($n = 45$), covering all months from September to May. On no occasion did these birds reveal the location of a nest. However, one female was tracked and within 3 days of fitting the tag this bird was found on a nest incubating two eggs. These observations collectively suggest that incubation was mostly undertaken by females.

Discussion

Despite the abundance of *I. albipectus*, it clearly has a cryptic breeding strategy. During detailed nest searching in Kibale Forest, western Uganda, which resulted in some 126 nests of 39 species being located, none of *I. albipectus* were found (Dranzoa 1995). The sole previous nest record was from Kibale Forest in November (Butynski 1989). That nest was also built on the ground and contained two eggs. Specimen data indicate breeding condition birds in June (Central African Republic); Jan–Feb, Apr–Jul, Oct–Nov (DRC); Aug–Nov (Sudan); and Apr–May, Nov (Uganda); with juveniles noted in May, July, November and December. These records cover almost every month of the year (all data from Fry *et al.* 2000). Dranzoa (1998) observed that 24 % of *I. albipectus* caught in Kibale Forest were in breeding condition (judged by brood patch or cloacal protuberance), but dates were not indicated. These records and the current observations emphasise the long breeding season for this species. Birds sing and maintain their territories all year round so it seems likely that they could breed in any month.

Since this is a highly terrestrial species (Fry *et al.* 2000), it may be expected that the young leave the nest early and are attended on the ground by the adults away from the nest. Brown Illadopsis *I. fulvescens* chicks were in the nest for 14 days ($n = 1$) and Pale-breasted Illadopsis *I. rufipennis* for 10 days (Fry *et al.* 2000).

These observations permit comparison with Blackcap Illadopsis *I. cleaveri* of western Africa. Chappuis (2000) speculated that *I. cleaveri* and *I. albipectus* are conspecific on the basis of similarity in vocalisations. The natural history of *I. cleaveri* is better known than *I. albipectus* (Brosset & Erard 1986) with data from seven nests found in Gabon. The description of the nest construction matches that of *I. albipectus*, but the positioning differs a little: one *I. cleaveri* nest was 15 cm above the ground and they were slightly raised, whereas all *I. albipectus* nests were sunk down so that the rim of the nest was flush with the surrounding leaf litter. Three of eight *I. albipectus* nests in Budongo were placed at the base of small trees, but no such information is mentioned for *I. cleaveri*. The description of the eggs of *I. cleaveri* matches that for *I. albipectus* including shape and dimensions (*I. cleaveri* mean = 24×17 mm, $n = 10$). Clutch size was the same (always two). Incubation in *I. cleaveri* was by the female only and observations for *I. albipectus* suggested the same, though this remains to be confirmed. Avoidance behaviour by the incubating bird was similar, with both species quietly disappearing across the forest floor. Interestingly, Brosset & Erard (1986) also recorded brood parasitism of

I. cleaveri by a cuckoo (possibly Red-chested Cuckoo *Cuculus solitarius*) in one of seven nests. The similarity of these observations suggests that these two species are very closely related indeed.

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Jeremy A. Lindsell

EGI, Department of Zoology, South Parks Road, Oxford OX1 3PS and Budongo Forest Project, P.O. Box 362, Masindi, Uganda. Current address: The RSPB, The Lodge, Sandy, Beds SG19 2DL UK. Email: jeremy.lindsell@rspb.org.uk

Kennedy Andama, Raimon Ogen and Geoffrey Okethuwengu

Budongo Forest Project, P.O. Box 362, Masindi, Uganda.

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